

## ABSTRACT

The present invention describes the method and system for characterizing optical receivers based on the measured impulse response and by applying linear system theory. In a first embodiment, the impulse response of an optical receiver is obtained. Convolving the impulse response with band-limited input pulses (modeled with straight-line edge pulses), a receiver output pulse can then be determined. From this pulse, an associated eye diagram can be mathematically derived and the maximum ISI can be estimated. In a second embodiment, for a given input pulse stream with a specified amount of noise, the impulse response-generated eye diagram is used to estimate the bit error rate (BER) that the receiver would yield.